

REMARKS

The Office Action dated January 26, 2005, has been received and reviewed.

Claims 1-33 are currently pending and under consideration in the above-referenced application. Each of claims 1-33 stands rejected.

Reconsideration of the above-referenced application is respectfully requested.

Preliminary Amendment

Please note that a Preliminary Amendment was filed in the above-referenced application on April 27, 2004, but that the undersigned attorney has not yet received any acknowledgement that the Preliminary Amendment has been entered into the Office file for the above-referenced application. If, for some reason, the Preliminary Amendment has not yet been entered into the Office file, the undersigned attorney would be happy to provide the Office with a true copy thereof.

Drawings

The Office has objected to the drawings under 37 C.F.R. § 1.83(a) for purportedly not showing every feature of the invention specified in the claims. Specifically, the Office has asserted that the drawings do not show a rotary feed system (claims 2 and 13), a linear feed system (claims 3 and 14), or removal of a substrate from one fabrication site while one or more objects are being fabricated on the substrate (claim 31).

With respect to the objection that a rotary feed system is not shown in the drawings, FIGs. 1 and 2 clearly illustrate such a system.

As for the illustration of a linear feed system, 37 C.F.R. § 1.83(a) states that when “detailed illustration is not essential for a proper understanding of the invention,” claimed features need not be illustrated. As indicated at paragraph [0051] of the specification, which directs the reader’s attention to a commercial source for linear feed systems, upon reading the specification of the above-referenced application to understand the inventive features disclosed therein, one of ordinary skill in the art would readily understand the manner in which a linear feed system could be incorporated into the inventive programmable material consolidation

systems and methods that are recited in claims of the above-referenced application. Thus, the detailed illustration of a linear feed system is not essential for a proper understanding of the invention.

The drawings have also been objected to for not showing every feature of claim 31. In particular, claim 31 recited removal of a substrate from a fabrication site while one or more objects are being fabricated on that substrate. This recitation was an unintentional error in the claim, and has been corrected by an amendment to claim 31, which now recites that a first substrate is removed from a first fabrication site as one or more objects are being fabricated upon second and third substrates. This subject matter is clearly depicted in FIG. 2.

It is respectfully requested that the objections to the drawings under 37 C.F.R. § 1.83 be withdrawn.

Objections to the Specification

The specification has been objected to for not properly identifying trademarks by capitalizing the same, and for not being accompanied by appropriate generic terminology.

The Office has identified several terms that it believes to be trademarks: Genmark, CIBATOOL, 3D Systems, Ciba, Accura, Cognex, PatMax, and Secomak.

When used as trademarks, the terms CIBATOOL and ACCURA have been capitalized and accompanied by an appropriate generic term.

As used in the specification of the above-referenced application, the terms Genmark, 3D Systems, Ciba, Cognex, and Secomak are company names, not trademarks. Since the trademark laws clearly indicate that, when used in a company name, the term does not comprise a trademark, it would be inappropriate to capitalize any of these terms.

The term "PatMax" is used as a trademark, as are the identifying names of other products from Cognex. Where appropriate (*i.e.*, where used as trademarks), these terms have been capitalized by amendment of the specification. Trademark usage of each of these terms was already accompanied by their respective, appropriate generic terms.

Withdrawal of the objections to the specification is respectfully requested.

Rejections Under 35 U.S.C. § 102

Claims 1-28 stand rejected under 35 U.S.C. § 102(b).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Aronsatein

Claims 1-23 stand rejected under 35 U.S.C. § 102(b) for reciting subject matter which is purportedly anticipated by that described in U.S. Patent 3,889,355 to Aronsatein (hereinafter "Aronsatein").

Independent claim 1 is drawn to a programmable material consolidation system that includes at least one fabrication site and a substrate handling system configured to introduce one or more substrates into the at least one fabrication site. As amended and presented herein, independent claim 1 recites that a programmed material consolidation process may be effected at the at least one fabrication site.

The description of Aronsatein is directed to a system for conveying individual semiconductor wafers from one semiconductor device fabrication process sector to another. For example, the wafers may be transported between an oxidation sector, a source and drain fabricating sector, a gate oxidation sector, a pattern generating unit, a metallization sector, and a sintering sector. Col. 23, lines 59-66. Identification and movement of each wafer may be controlled by a computer. Col. 24, line 17, to col. 26, line 4.

The system of Aronsatein is not a programmable material consolidation system. Rather, it is a semiconductor device fabrication system. Moreover, while the semiconductor device fabrication system of Aronsatein includes a variety of process sectors, Aronsatein includes no express or inherent description that any of these process sectors is configured for effecting a programmed material consolidation process. Therefore, Aronsatein does not anticipate each and

every element of independent claim 1, as would be required to maintain the 35 U.S.C. § 102(b) rejection of amended independent claim 1.

Claims 2-11 are each allowable among other reasons, for depending directly or indirectly from claim 1, which is allowable.

Claim 2 is further allowable since Aronsatein lacks any express or inherent description of a substrate handling system that comprises a rotary feed system. Although col. 9, lines 4-8 mentions that handlers 31 may rotate wafers from a horizontal orientation to a vertical orientation, such rotation is not effected by a rotary feed system. Rather, as FIG. 4 of Aronsatein clearly shows, handlers 31 travel along a linear path.

Claim 4 is additionally allowable since Aronsatein does not expressly or inherently describe a system that includes a plurality of fabrication sites for effecting a programmed material consolidation process.

Claim 8 is also allowable since Aronsatein does not expressly or inherently describe a system that includes a plurality of fabrication sites for effecting a programmed material consolidation process.

Independent claim 12 recites a programmable material consolidation system that includes means for fabricating one or more objects and means for handling one or more substrates. As amended and presented herein, the means for fabricating uses a programmed material consolidation process.

The system of Aronsatein is a semiconductor device fabrication system, not a programmable material consolidation system. Further, the system described in Aronsatein lacks means for fabricating that uses a programmed material consolidation process. Therefore, Aronsatein does not anticipate each and every element of amended independent claim 12, as would be required to maintain the 35 U.S.C. § 102(b) rejection of amended independent claim 12.

Each of claims 13-23 is allowable, among other reasons, for depending directly or indirectly from claim 12, which is allowable.

Claim 13 is further allowable since Aronsatein lacks any express or inherent description of a substrate handling system that comprises a rotary feed system. Although col. 9, lines 4-8 mentions that handlers 31 may rotate wafers from a horizontal orientation to a vertical orientation, such rotation is not effected by a rotary feed system. Rather, as FIG. 4 of Aronsatein clearly shows, handlers 31 travel along a linear path.

Claim 16 is additionally allowable since Aronsatein does not expressly or inherently describe a system that includes a plurality of means for fabricating that use a programmed material consolidation process.

Claim 20 is also allowable since Aronsatein does not expressly or inherently describe a system that includes a plurality of means for fabricating that use a programmed material consolidation process.

Caccoma

Claims 1, 3-5, 12, 14-17, and 24-28 stand rejected under 35 U.S.C. § 102(b) for reciting subject matter which is purportedly anticipated by that described in U.S. Patent 4,027,246 to Caccoma (hereinafter "Caccoma").

Like Aronsatein, the disclosure of Caccoma is limited to a semiconductor device fabrication system that includes a variety of process sectors that are used to fabricate integrated circuits on a semiconductor wafer.

Caccoma does not expressly or inherently describe a programmable material consolidation system, let alone a programmable material consolidation system that includes at least one fabrication site for effecting a programmed material consolidation process, as is required by amended independent claim 1. Thus, Caccoma does not anticipate each and every element of amended independent claim 1. Therefore, under 35 U.S.C. § 102(b), the subject matter recited in amended independent claim 1 is allowable over the subject matter described in Caccoma.

Each of claims 3-5 is allowable, among other reasons, for depending directly or indirectly from claim 1, which is allowable.

Caccoma also lacks any express or inherent description of a programmable material consolidation system, as well as a system that includes means for fabricating one or more objects using a programmed material consolidation process, as would be required to anticipate the subject matter recited in amended independent claim 12. Therefore, under 35 U.S.C. § 102(b), the subject matter recited in amended independent claim 12 is allowable over the subject matter described in Caccoma.

Claims 14-17 are each allowable, among other reasons, for depending directly or indirectly from claim 12, which is allowable.

Independent claim 24 is directed to a programmed material consolidation method for fabricating objects. The method of independent claim 24 includes selecting at least one first substrate, introducing the at least one first substrate into a first fabrication site with a substrate handling system, selecting at least one second substrate, and introducing the at least one second substrate into a second fabrication site with the substrate handling system. Additionally, as amended and presented herein, the method of independent claim 24 includes fabricating at least a portion of at least one object on the first and second substrates at the first and second fabrication sites, respectively.

Again, Caccoma neither expressly nor inherently describes a programmed material consolidation system. Instead, the disclosure of Caccoma is limited to a system for directing wafers from one piece of equipment for fabricating integrated circuitry upon a semiconductor substrate to another piece of fabrication equipment.

Moreover, Caccoma does not expressly or inherently describe that a programmed material consolidation process may be used to form at least a portion of at least one object at any of the pieces of fabrication equipment, or process sectors, of the system disclosed therein. Rather, each of the sectors is limited to effecting a single, conventional semiconductor device fabrication process (*e.g.*, oxidation, doping, metallization, photomask formation, etching, cleaning, etc.), none of which includes a programmed material consolidation process.

Accordingly, under 35 U.S.C. § 102(b), amended independent claim 24 recites a programmed material consolidation method which is allowable over the semiconductor device fabrication process described in Cacomma.

Each of claims 25-28 is allowable, among other reasons, for depending directly or indirectly from claim 24, which is allowable.

Withdrawal of the 35 U.S.C. § 102(b) rejections of claims 1-28 is respectfully solicited.

Rejections Under 35 U.S.C. § 103(a)

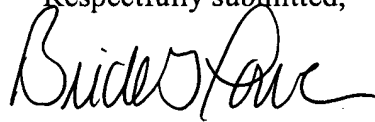
Claims 29-33 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over that taught in Cacomma, in view of teachings from Aronsatein.

Claims 29-33 are each allowable, among other reasons, for depending directly or indirectly from claim 24, which is allowable.

CONCLUSION

It is respectfully submitted that each of claims 1-33 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,



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